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MANX ARCHÆOLOGY.

Manx Crosses; or the Inscribed and Sculptured Monuments of the Isle of Man from about the end of the Fifth to the beginning of the Thirteenth Century.

By P. M. C. Kermodé. Pp. xxii+221. (London: Bemrose and Sons, Ltd., 1907.) Price 63s. net.

THIS handsome volume contains notes and illustrations of the inscribed and sculptured stones of the Isle of Man from the time of its conversion to the end of the Scandinavian rule, that is to say, from the close of the fifth (?) to the beginning of the thirteenth century A.D. The individual descriptions are preceded by some ninety pages on the early history of the island and the leading features of the monuments as a whole. These are of great value for the study of Celtic art in general, and many readers—all, indeed, who are unable to study the crosses on the spot—will give them more attention than the remainder of the book. In view of this fact and the somewhat recondite nature of the subject, it may not be out of place if we touch on the more important of their contents before proceeding to speak of particular instances.

The earliest monuments in the island are, without question, the rude boulders inscribed with Oghams. In language, formula, and characters these do not differ from those of the fifth century in Pagan Munster, but if we are to judge from the frequency with which the names of Irish ecclesiastics occur in the appellations of the Manx keels or chapels, and the dedications of the parish-churches, it seems reasonable to suppose that the Irish came to Man to christianise it, and that the Ogham writing was introduced by, and the stones erected to the memory of, Christians. The date of the conversion of the Celtic Manx is uncertain, but we know that it was in the sixth century that the Irish missionaries began to wander over Europe, and it would have been strange indeed if they had neglected a people so near at hand. The advance among them of the new creed, though never actually checked, was fated to be disturbed some three centuries later by the raids of the Vikings. They appeared in the Irish Sea in 798, and harried the island at intervals during a considerable period. At the end of the ninth or the beginning of the tenth century, it began to be definitely occupied by the Scandinavian invaders, and for the next hundred years it was ruled by the successors of Olaf the White, King of Dublin.

The Northmen, as we have said, did not attempt to stamp out Christianity among their Manx subjects; on the contrary, our author thinks it not unlikely that the Celtic church revived, and that the later Celtic pieces carved in relief and highly decorated were erected during this period. The conversion of the settlers themselves he shows ground for assigning to the first quarter of the eleventh century, and it is significant that after 1050 we hear of a Norwegian bishop, "Hroolwer or Hrolfr," who, according to the chronicle, was succeeded by another, William, before Godred Crovan began to reign in 1075. The year of Hroolwer's coming or death is unknown, but

this mention of him enables us to fix approximately the date of our first Scandinavian monuments, which cannot be earlier than 1025 or 1030, and as in one of his inscriptions (Kirk Michael 74) Gaut claims to have made all the crosses in Man, we must suppose enough time to have elapsed for the late Celtic pieces to have been overlooked. Yet neither from this nor from the appearance of the Norwegian ecclesiastics should we be justified in assuming a break in the continuity of the Celtic Church; that there was no such thing is shown by the fact that the later Scandinavian pieces preserve the Celtic type, and are found on ancient sites dedicated to Celtic saints. But if its ascendancy was undisputed by the Northmen it was fated to pass away before another power; the year 1170 saw the foundation of the Abbey of Rushen, and this resulted in the virtual subjection of the Manx hierarchy to the great English house of Furness. Under these new conditions the native school of art ceased to develop, the foreigners being opposed to anything savouring of paganism, such as the Runic inscriptions, or likely to interfere with the spread of Catholicism. The Gothic coffin-lid at Rushen may well have belonged to one of the last of the Scandinavian rulers. In any case it is unlikely that the specimens of Celtic art in the island are, any of them, later than the beginning of the thirteenth century.

From the circumstances of their production our author passes on to speak of their distribution and artistic features. As most of us are aware, they form part of the monumental system of the early British Church, which was an extension westward of that of Christian Rome in the period succeeding the death of Constantine. They will be found, however, to show distinct local peculiarities. Of the 116 pieces discussed in the book forty-five are classed as Scandinavian, seventy-one as of earlier date. Maughold has by far the greater number, thirty-seven; Michael comes next with ten, Braddan with nine. Both groups alike are of local rock, usually clay-slate, derived from the immediate neighbourhood. Almost all are sepulchral, and though described as crosses, they are, strictly speaking, cross-slabs, upright, rectangular blocks, varying from 2 feet 6 inches to 6 feet in height, by about fifteen to twenty-four inches wide, and from two to four inches thick. A few are wheel-headed or rounded; only in two late instances is the stone itself cruciform.

We are not surprised to find that the pre-Scandinavian monuments are more numerous in the old parishes Maughold, Braddan, Conchan, Rushen, Lonan and German. After the Ogham-stones already mentioned come a certain number with crosses incised, linear or in outline, all of them plain except for three with hexafoil and one with triquetra. A further stage is reached by those with the figure sculptured in relief. Of the stones of this group, seven show practically no decorative treatment, thirteen are plain or have decorations only of the simplest, cross-lets, pellets, bosses, &c., while the remaining eighteen have geometrical designs, zoomorphic interlacings, and figure subjects. These latter are hard to date exactly, but they clearly reached down to the period of the Scandinavian occupation if they did not overlap

it. We must not forget to mention, midway between the incised and decorated pieces, six monuments with sunk background or design.

These pre-Scandinavian crosses vary greatly in shape, particularly those of the earlier groups. Among those incised in outline we find some pure Latin, some equal-limbed, some with expanded arms, one crux ansata, &c. At first, at any rate, we are not confined to the type with recessed limbs and joined ends, which it is customary to associate with Celtic art, and which came to predominate here as in other Celtic countries. The art motives remind us, if anything, of those of the Irish school, but it would be a mistake to suppose that the Manx artists were slavish imitators of foreign models, Irish or otherwise. Some well-known designs, viz. the step, the key-fret, and the spiral, are feebly represented or altogether missing. Nor do we meet with the lacertine and bird-like figures with interlaced top-knots, tongues, tails and legs, which are regarded as Irish *par excellence*, the nearest approach being the dragon-plait on the fragment from Cardle (Maughold 60). On the other hand, these monuments boast a certain number of patterns, e.g. the double twist with diamond ring and the various developments of loop-plait, which cannot be matched elsewhere, and show originality of conception as well as technical skill.

Except at Maughold and Braddan, the Scandinavian monuments are most numerous where there are few or no Celtic, as at Andreas, Michael, and Jurby. A few pieces are unadorned—these are late, strange to say—the remainder are handsomely decorated on both fronts, sometimes even on the edges. As we have pointed out, this series is to all intents and purposes a continuation of the earlier one. The crosses are Celtic in form; the decorative treatment and the designs are of Celtic origin. For one feature, indeed, it is not indebted to any Celtic, or indeed any Christian, model; we allude, needless to say, to its inscriptions in Runes. These occur on twenty-six out of the total of forty-five stones, eighteen in the northern and eight in the southern district. All are Scandinavian, in the Norwegian tongue excepting, perhaps, that on Maughold 104, which Prof. Bugge believes to be in Swedish. The one Anglo-Saxon example occurs on a stone of the Celtic group.

A good deal of space is devoted to this subject, not only to the Runes of Man, but to runes in general, and we do not doubt that this section will prove of great value to the student. Though the designs on these monuments are based on Celtic types, it would be a mistake to imagine that the men who made them drew their inspiration from pieces already in the island. On the contrary, several of their patterns, the step, the divergent spiral, and the chevron, are entirely absent from the Celtic pieces. The tendril and the forms of link-twist introduced by Gaut, Mr. Kermodé believes to have been suggested by the carved stones of Scotland and the north of England; the other designs on these later pieces he derives from the Celtic MSS., basing his view on the frequent use of the triquetra and other local peculiarities. The origin of the figure-drawing is harder to determine. It is true that some of the stones have zoomorphic patterns of

Norse type, and scenes from Norse mythology. Yet for all that, these latter have no more in common with the drawings of Scandinavia proper, which are inferior and rare, or the Viking-pieces of the lake-district, than with the rude efforts of the Welsh or the later Irish work. They have some affinities with the drawings on the stones of East Scotland, but what we find on them for the most part are original representations taken direct from nature. Generally speaking, these Scandinavian monuments show less regard for accuracy, a bolder treatment, and greater freedom than the earlier pieces.

It remains to say something as to individual crosses, no easy task when the space is so limited, and there is so much to detain the artist and antiquarian. We must be content to touch very briefly on a few of those most worthy of attention. Of the stones of the Celtic group a great number are interesting mainly for the light they shed on the development of the figure or the design; the most striking in itself, far more striking than the more highly decorated pieces, is the stone found in the Calf of Man (50) with a unique example of the Byzantine treatment of the Crucifixion. We have alluded more than once to the Ogham stones of the fifth century Irish type. To these must be added two monuments, not Celtic, by the way, but Scandinavian, inscribed with scholastic or Pictish Oghams. On one of these, the beautiful Mal Lumkun Cross (Michael 104), along with Runic legends we find one of the earliest instances of the Ogham alphabet. Of the Latin inscriptions, that on Maughold 48 is perhaps the most interesting, the Guriat to whom it refers being connected in all probability with Cynan, King of Gwynedd, whose daughter Ethil he may be supposed to have married. The Anglian Runes on Braddan 25 form the word "Blagkimon," a known Anglo-Saxon personal name.

Among the Scandinavian monuments the most remarkable beyond a doubt, though not always the best preserved, are those with Norse mythological scenes (Jurby 93, Malew 94, Andreas 95, Bride 97, &c.). The representations of Sigurd slaying the dragon Fafni, or Heimdal blowing his horn, of Vidar spearing the Wolf, show great vigour and originality.

We have endeavoured to give an idea, however imperfect, of the contents of this long and interesting volume. We have but little to offer by way of criticism. One thing strikes us, and that is that the author is not of those antiquarians who are for ever wrestling facts to support a theory. If anything, he is afraid of being thought dogmatic. In expressing his own opinions he is careful not to shut out possible alternatives. He agrees, for instance, with Mr. Romilly Allen in deriving the Celtic cross from the monogram of Constantine's dream; he points out, none the less, that it might well have been developed from a form similar to that of the lost cross at Braddan, with equal limbs and circles between them. So, too, in the chapter on runes already mentioned, he places at the disposal of the reader a complete *résumé* of all the views on the subject. Except for many repetitions the arrangement of the work is admirable, and the style, all things considered, unusually lucid. The erudition displayed in it is considerable, and the standard of accu-

racy a high one. Mr. Kermode may fairly claim to have bestowed on the student a lasting possession, and to have done for the Isle of Man what Dr. Anderson and the late Mr. Romilly Allen did for Scotland.

A word must be said in conclusion as to the plates, which greatly enhance the value of the work. They are taken, not from photographs, but from reduced copies, made with the greatest care, of full-sized drawings, founded on rubbings of the stones.

CHEMICAL AND PHYSICAL TABLES.

Van Nostrand's Chemical Annual, 1907. Edited by Dr. J. C. Olsen. Pp. x+496. (London: A. Constable and Co., Ltd., 1907.) Price 12s. 6d. net.

CHEMICAL and physical tables required by various kinds of chemists have been collected in this annual. Among the ninety-three tables it contains are five-figure logarithms, constants of the elements, some very complete tables of factors and their logarithms for the calculation of gas, volumetric and gravimetric analyses, constants of fats, oils and waxes, the more important constants (molecular weight, specific gravity, melting point, boiling point, solubility, crystalline form and colour) of some 4000 inorganic and 5000 organic compounds, specific gravities of solutions, vapour pressure, conversion, and heat of combustion tables. The remainder of the book is taken up with classified lists of the chemical papers and books published since the beginning of 1905, and an index.

This matter forms a volume which has been much needed, and will be most useful to all chemists. No pains have been spared to make many of the tables accurate and comprehensive, as, for example, the above-mentioned data for some 9000 compounds. The classified list of chemical papers, on account of its conciseness, should, if kept complete, be quite useful even to those who have the fuller abstracts of the Chemical and American Chemical Societies; the list of books will be even more valuable.

Unfortunately, references have been given only in a few cases to the original observers of the data used in the annual. In future editions such references should be made more complete. The following quantities are not defined:—electrical conductivities, specific heat of gases (whether C_p or C_v), and the various "constants" and "values" for oils, fats and waxes. To give Reichert-Meissl values without definition when two sets of values are current is confusing. The table of gas densities is quoted, unfortunately, from Landolt-Börnstein-Meyerhoffer Tabellen, where the densities are calculated on certain assumptions (clearly wrong in the light of the work of D. Berthelot, P. Guye, Lord Rayleigh and others) instead of being the observed densities; further, the values found by E. Morley for hydrogen and oxygen in his classic work are not given.

While laborious determinations are being made to improve the second decimal place of atomic weights, there are scarcely any other physico-chemical constants known to anything like the accuracy which atomic

weights now have. The energies of many of the workers on atomic weights might now with great advantage be turned to improving the accuracy of many other constants. Boiling points are an example of this; scarcely any are known to 0.1° , and many current values for the same substance differ by whole degrees. The boiling points of organic substances in this book are from Beilstein, yet for five out of the six esters we have tried, the very careful determinations of Young and Thomas are not given.

We have detected few misprints; the logarithm of 2011 is incorrect. The value of the inch in millimetres is given to eight places, or to 10^{-9} cm.; this is less than the accepted value for the diameter of an atom, and the minimum length visible. The boiling point of helium is given as -267° ; we were not aware that it had been liquefied; Olszewski failed to do so by cooling it to a calculated temperature of -270° .

We know of no other tables of this kind in English which are so complete and so up to date as this annual. It is convenient in size, and clearly printed on good paper. The five-figure logarithms are the best arranged we have seen.

T. H. L.

A NEW TEXT-BOOK OF PSYCHOLOGY.

Elements of Psychology. By Dr. S. H. Mellone and Margaret Drummond. Pp. xvi+483. (Edinburgh and London: W. Blackwood and Sons, 1907.) Price 5s. net.

THIS book is the joint work of two authors who are evidently well acquainted with the needs of the examinee, as well as those of the more genuine student of the science of psychology. It is therefore not surprising to find in the preface the statement that the book is intended as "a contribution to the teaching of psychology." Every stone of offence is carefully removed from the learner's path. Even the usual order of treatment is altered for his benefit. After a few introductory chapters on the method and subject-matter of the science, the student is brought face to face with the most essential characteristic of consciousness, viz. mental activity, and in its most pronounced form—volition. Not until the emotions and pleasure-pain have been treated with like fulness and concreteness do the authors descend to the conventional sequence of sensation, perception, &c. This order is determined by relative difficulty of introspection, the prominent complexes of mental life being taken before their more abstract elements.

It will thus be seen that the introspection standpoint is avowedly adopted as the fundamental one. Although the objective conditions of consciousness are by no means neglected, no attempt is made to develop that objective and functional view of mental life which is so popular in certain quarters at the present day, and, to the present writer's mind at least, seems so full of promise. The standard authorities—Ward, James, Stout, &c.—are closely followed, and to such good purpose that the book forms an excellent introduction to the study of these authorities them-